

# Bobcaygeon WWTP

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Works # 110002498

## Annual Wastewater Performance Report

Prepared For: The City of Kawartha Lakes

Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup>, 2020

Issued: March 15, 2021

Revision: 0

Operating Authorities:



**OCWA**

 **ONTARIO CLEAN WATER AGENCY**  
**AGENCE ONTARIENNE DES EAUX**

**2020 Performance Report for Bobcaygeon Waste Water Treatment Facility**

Amended Environmental Certificate of Approval (ECA) #3028-AEUKDQ Section 11(4) requires the Performance Report to contain the following:

- a) a summary and interpretation of all monitoring data and a comparison to the Final Effluent limits outlined in Compliance Limits condition, including an overview of the success and adequacy of the Works;
- b) a description of any operating problems encountered and corrective actions taken;
- c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- f) a description of efforts made and results achieved in meeting the Design Objectives of Condition 6;
- g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- i) a summary of all By-pass, spill or abnormal discharge events;
- j) a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;
- k) a report summarizing all modifications completed as a result of Schedule B, Section 3; and
- l) any other information the Water Supervisor requires from time to time; and

(ECA) #3028-AEUKDQ Section 6(3) The Owner shall make an assessment of the issues and recommendation of pro-active actions if any is required under the following situations and include in the annual report to the Water Supervisor:

- a. when any of the design objectives is not achieved consistently; -
- b. when the Annual Average Daily Flow reaches 80% of the Rated Capacity.

The following is a report from the records maintained by the Ontario Clean Water Agency for the Bobcaygeon WWTP for the calendar year 2020:

(a,f) Overall, the plant process ran well in 2020. The following tables summarize the monthly effluent quality results in comparison to the effluent limits Condition 7 of Certificate of Approval #3028-AEUKDQ and Condition of Environmental Certificate of Approval (ECA) #3028-AEUKDQ (issued April 10, 2017).

Attached as **Appendix I** is a copy of the 2020 Performance Assessment Report (PAR) and loading calculations for the Bobcaygeon WWTP for the facility combined final effluent. The PAR contains: a tabulation of all monthly average raw sewage and final effluent sample results obtained during the reporting period, a tabulation of average daily flows, and monthly volumes for the reporting period, and a tabulation of calculated total loading of BOD/CBOD<sup>5</sup>, suspended solids, total phosphorus, and ammonia + ammonium as N concentrations in the final effluent.

The Bobcaygeon WWTP has a Rated Capacity of 3,055 m<sup>3</sup>/day and a Peak Capacity of 10,440 m<sup>3</sup>/day.

The total final effluent flow was 856,220.00m<sup>3</sup> and the average daily flow was 2,339.40 m<sup>3</sup> which is 76.6% of the rated capacity.

A sanitary sewer flow monitoring study was completed by Civica in 2015 and identified several areas where excess I&I flow is coming into the collection system (i.e. Infiltration – joints, cracks, manhole covers, etc., sump pumps, storm drain tie-ins, etc). By isolating and addressing/maintaining the main areas of concern, the number of high flow events and the flow peaking factor to the WWTP will be reduced, which will have a positive impact on the current plant process and will defer future plant expansion/major capital upgrades and the associated costs.

OCWA initiated a Facility Optimization Program (FOP) in 2017 for the Bobcaygeon WWTP. Through the FOP, a comprehensive review of plant performance was conducted. This report provides details of the program and key findings through review of background information, plant treatment performance and capacity evaluation to establish opportunities for improved plant operations. To evaluate the impact of inflow and infiltration (I&I) on the influent flows to the plant, the historical flow data was analyzed. Over a 36-month period, the average influent flow to the facility increased by 50% and the average flow exceeded the rated design capacity of 3,055 m<sup>3</sup>/d in 2017 by 5%. The influent concentrations became more dilute on average over the 36 month period. The increased flows and decreased organic loading is an indicator of significant I&I into the collection system.

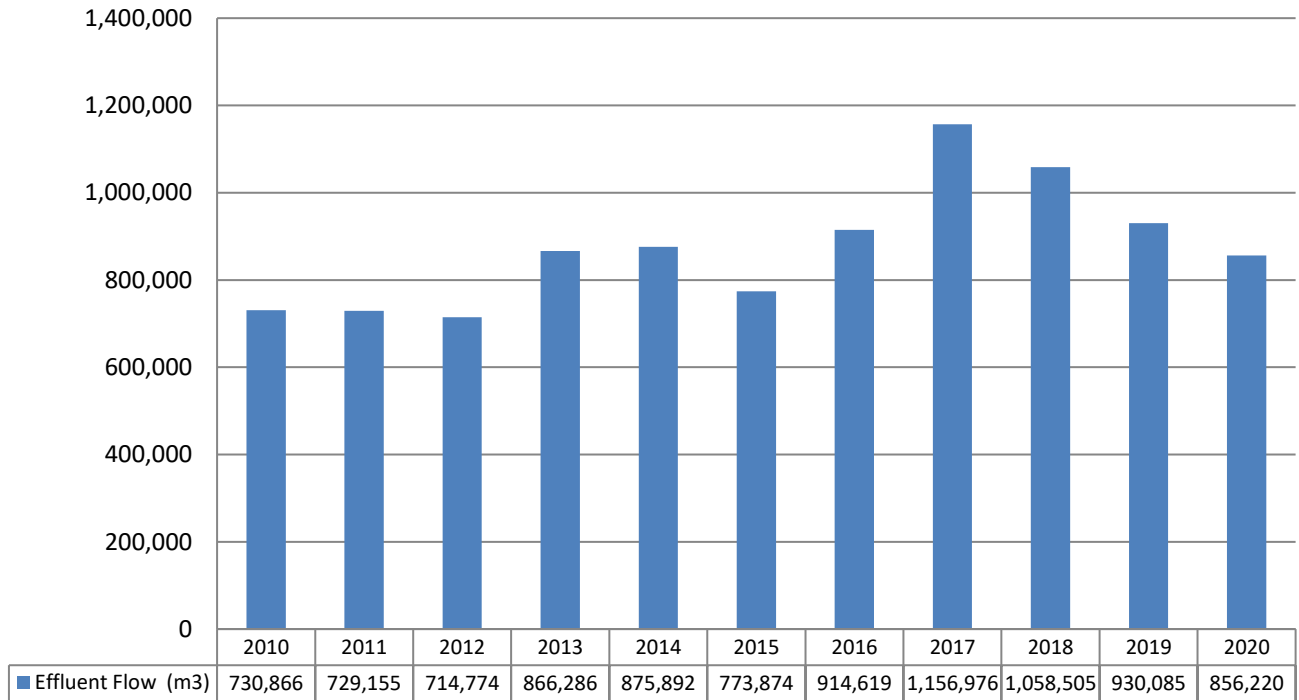
Precipitation data from 2017 from the Environment Canada for the weather station nearest to Bobcaygeon (Peterborough, ON) was analyzed to determine if there was a correlation between higher precipitation and higher flows to the plant.

The correlation between the periods of high influent flow and high precipitation amounts is strong, particularly in the spring season. A peak in the precipitation trend is immediately followed by a peak in the influent flow to the plant.



There may be instances where effluent flow exceeded the Rated Capacity on a monthly basis. However, Rated Capacity is calculated as an annual average daily flow rate, which was met in 2020.

**Graph 3: Historical Effluent Flows from 2010 to 2020**



ECA #3028-AEUKDQ (issued April 10, 2017) Condition 9(3) describes the requirement for sample collection at the following locations, frequencies and by means of the specified sample type and analyzed for each parameter listed and all results recorded:

**Table 1: Minimum Sampling Requirements**

<b>Influent Sampling Point</b>		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
BOD5	Composite	Monthly
Total Suspended Solids	Composite	Monthly
Total Phosphorus	Composite	Monthly
Total Kjeldahl Nitrogen	Composite	Monthly
<b>Final Effluent Sampling Point</b>		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
CBOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Ammonia Nitrogen	Composite	Weekly
E. coli	Grab	Weekly
pH	Grab	Weekly

Influent Sampling Point		
Parameters	Sample Type	Frequency
Temperature	Grab	Weekly
Acute Lethality to Rainbow Trout and Daphnia magna	Grab	Quarterly

**Effluent Parameter Summary**

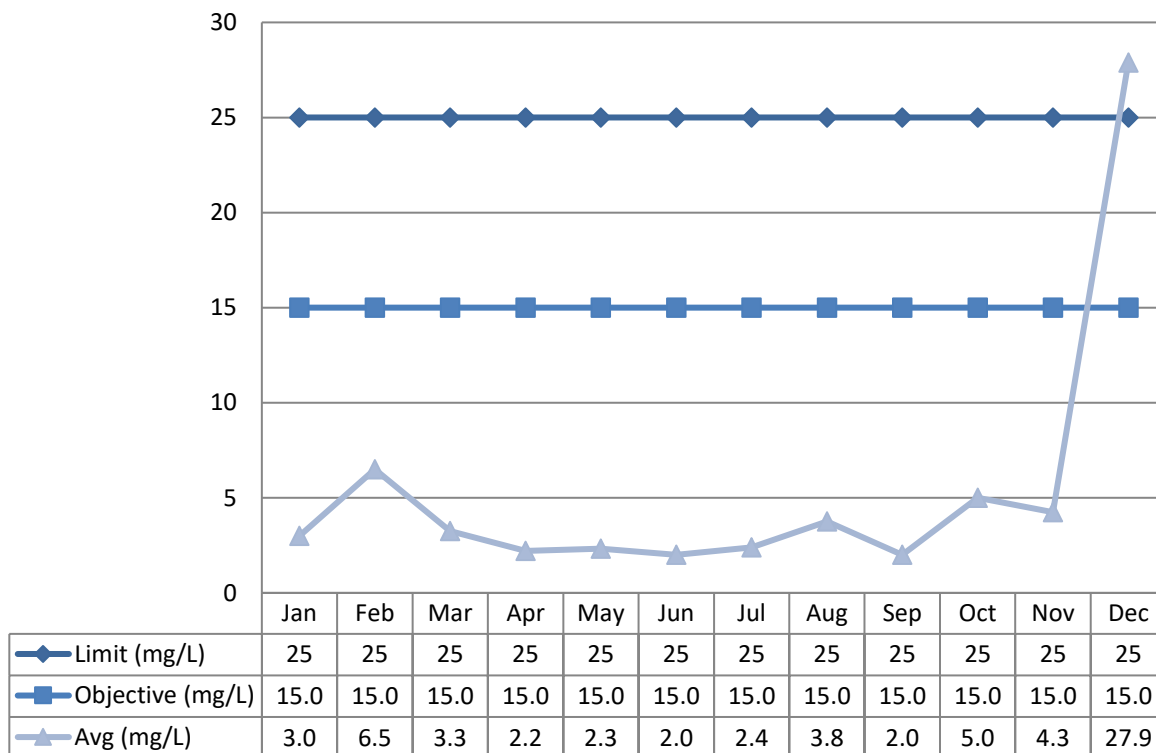
**Carbonaceous Biochemical Oxygen Demand (CBOD5)**

ECA #3028-AEUKDQ sets the CBOD5 monthly average concentration limit at 25.0 mg/L and the monthly average waste loading at 76.4 kg/day. The monthly CBOD5 average concentration results and monthly average waste loading results were in compliance with the limits and objectives outlined in ECA 3028-AEUKDQ in every month in 2020 except for December 2020.

**CBOD5 Monthly Average Concentration**

The monthly CBOD5 monthly average concentration limit and monthly concentration objective were met each month in 2020, except for December.

**Graph 4: 2020 Monthly CBOD5 Final Effluent Concentration Comparisons**



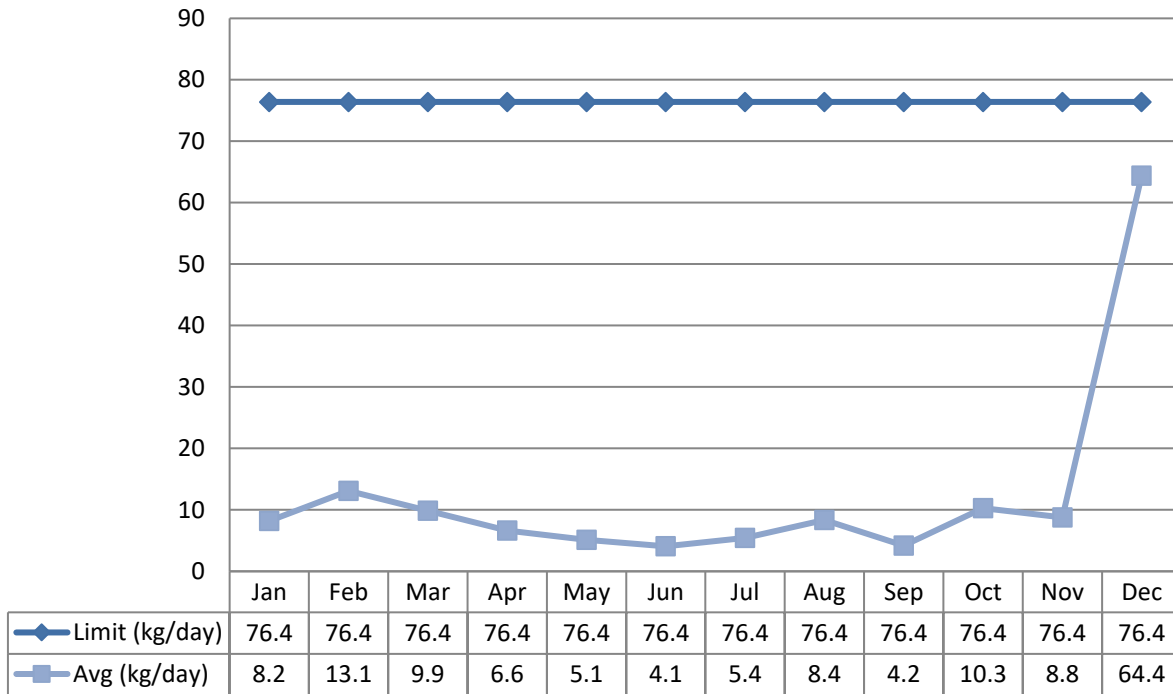
The Bobcaygeon WPCP was able to consistently meet the Effluent Objectives for CBOD throughout 2020 with the exception of December 2020. On December 4-7 2020, the Bobcaygeon WPCP experienced an aeration bypass that resulted in an exceptionally high CBOD result of 208 mg/L CBOD. Over the month, 8 additional CBOD samples were submitted for analysis and the remaining CBOD results were returned with 10 mg/L or less.

Despite acceptably low CBOD results on the remaining samples throughout the month, the calculated monthly average exceeded the limit set in ECA 3028-AEUKDQ . See Section (i) for more Bypass information.

**CBOD5 Monthly Average Waste Loading**

The monthly CBOD5 monthly average waste loading limit was met each month in 2020.

**Graph 5: 2020 Monthly Final Effluent CBOD5 Average Waste Loading Comparisons**



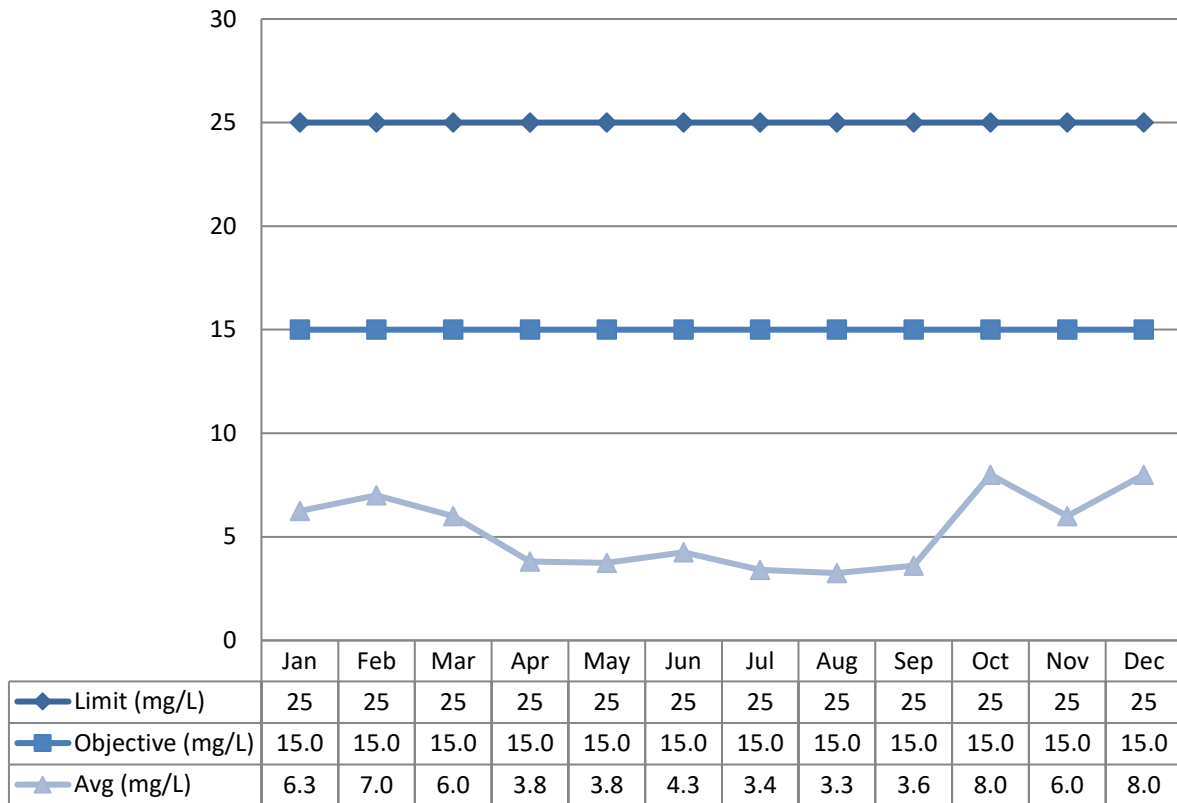
**Total Suspended Solids (TSS)**

ECA #3028-AEUKDQ sets the TSS annual monthly concentration limit at 25.0 mg/L and the monthly average waste loading at 76.4 kg/day. The monthly Total Suspended Solids average concentration results and monthly average waste loading results throughout 2020 were in compliance with the limits and objectives outlined in ECA 3028-AEUKDQ.

**Total Suspended Solids Monthly Average Concentration**

The monthly Total Suspended Solids monthly average concentration limit and monthly concentration objective were met each month in 2020.

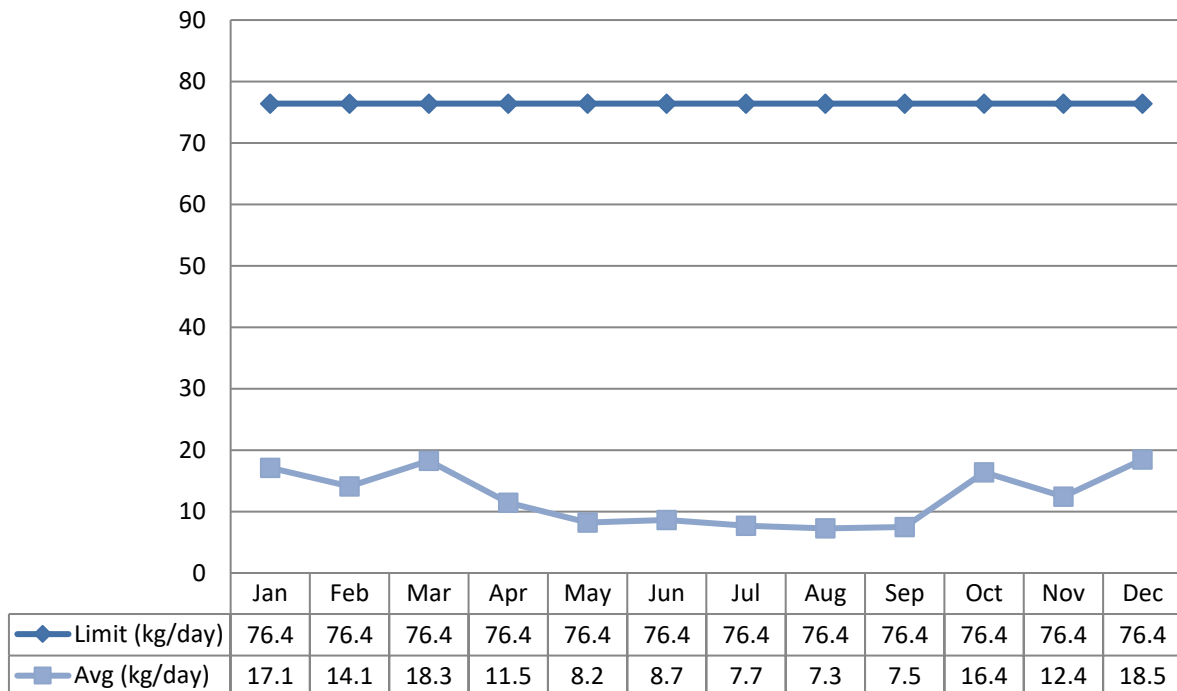
**Graph 6: 2020 Monthly TSS Final Effluent Concentration Comparisons**



**Total Suspended Solids Monthly Average Waste Loading Limits**

The monthly Total Suspended Solids monthly average waste loading limit was met each month in 2020.

**Graph 7: 2020 Monthly Final Effluent TSS Average Waste Loading Comparisons**





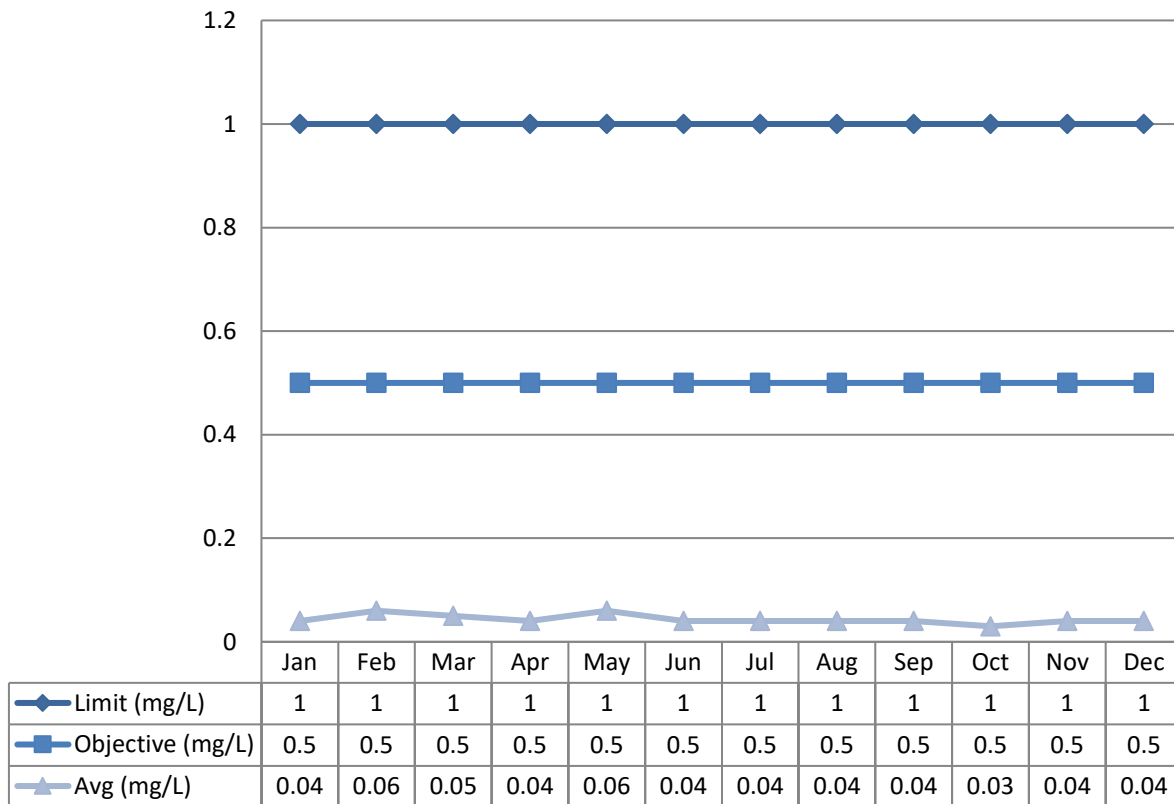
**Total Phosphorus (TP)**

ECA #3028-AEUKDQ sets the TP annual monthly concentration limit at 1.0 mg/L and the monthly average waste loading at 1.3 kg/day. The monthly Total Phosphorus average concentration results and monthly average waste loading results throughout 2020 were in compliance with the limits and objectives outlined in ECA 3028-AEUKDQ.

**Total Phosphorus Monthly Average Concentration**

The monthly Total Phosphorus monthly average concentration limit and monthly concentration objective were met each month in 2020.

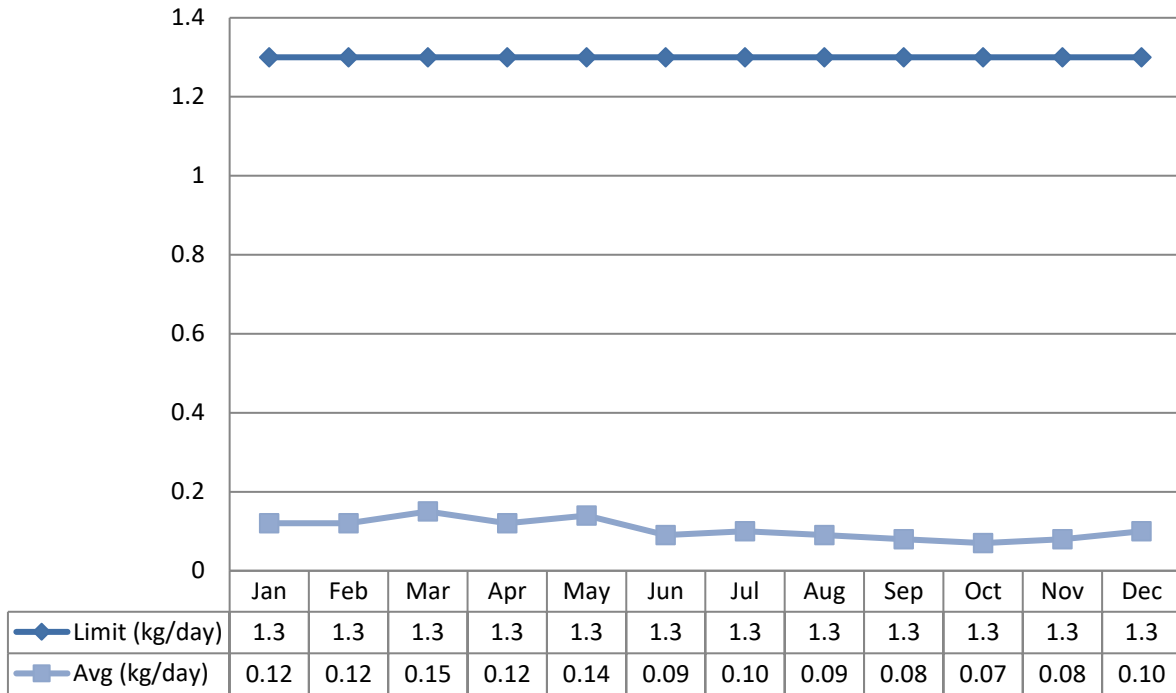
**Graph 8: 2020 Monthly Total Phosphorus Final Effluent Concentration Limit Comparisons**



**Total Phosphorus Monthly Average Waste Loading Limits**

The monthly Total Phosphorus monthly average waste loading limit was met each month in 2020.

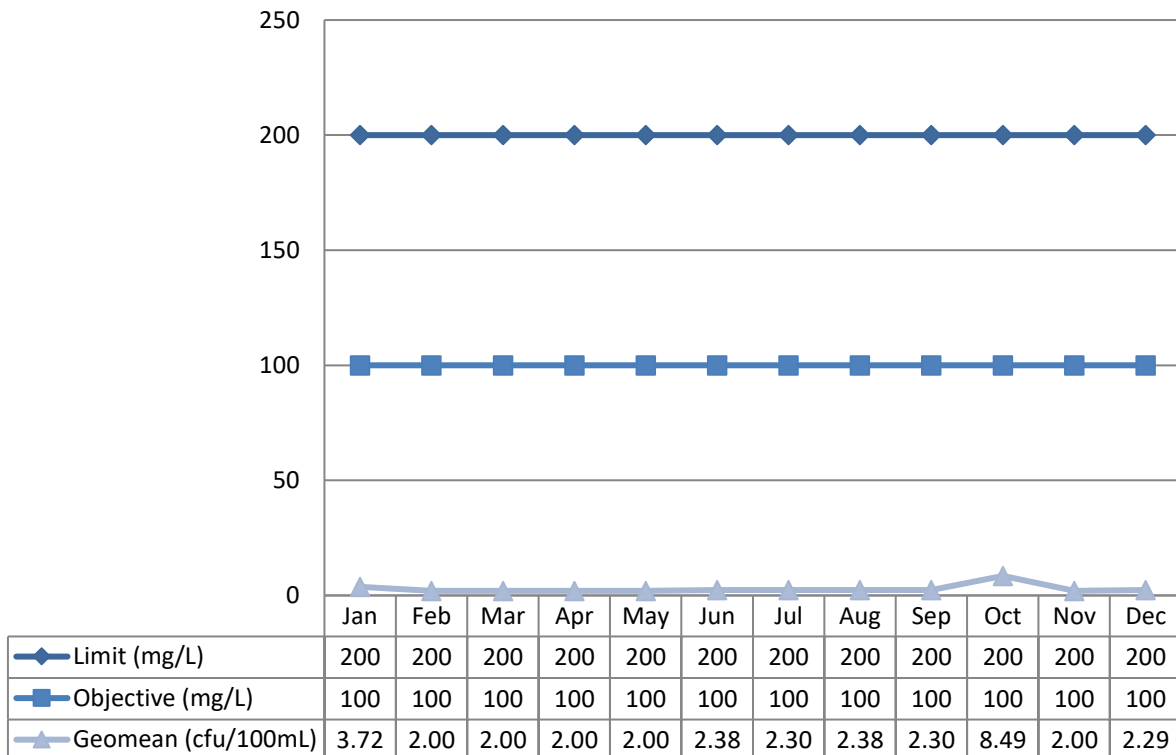
**Graph 9: 2020 Monthly Final Effluent Total Phosphorus Average Waste Loading Comparisons**



**E. coli**

ECA #3028-AEUKDQ sets the monthly geometric mean density of E. coli at 200 cfu/100mL and the monthly geomean limit was met each month in 2020.

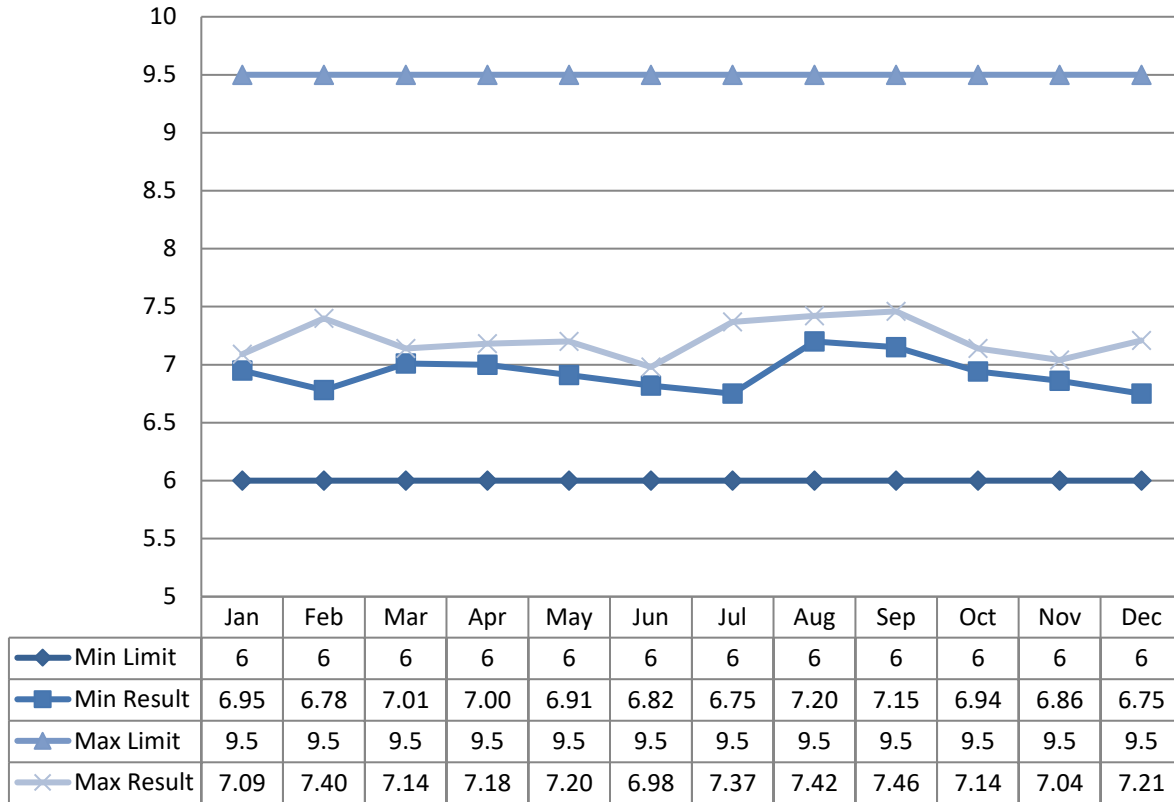
**Graph 10: 2020 Monthly E. Coli Final Effluent Geometric Mean Comparisons**



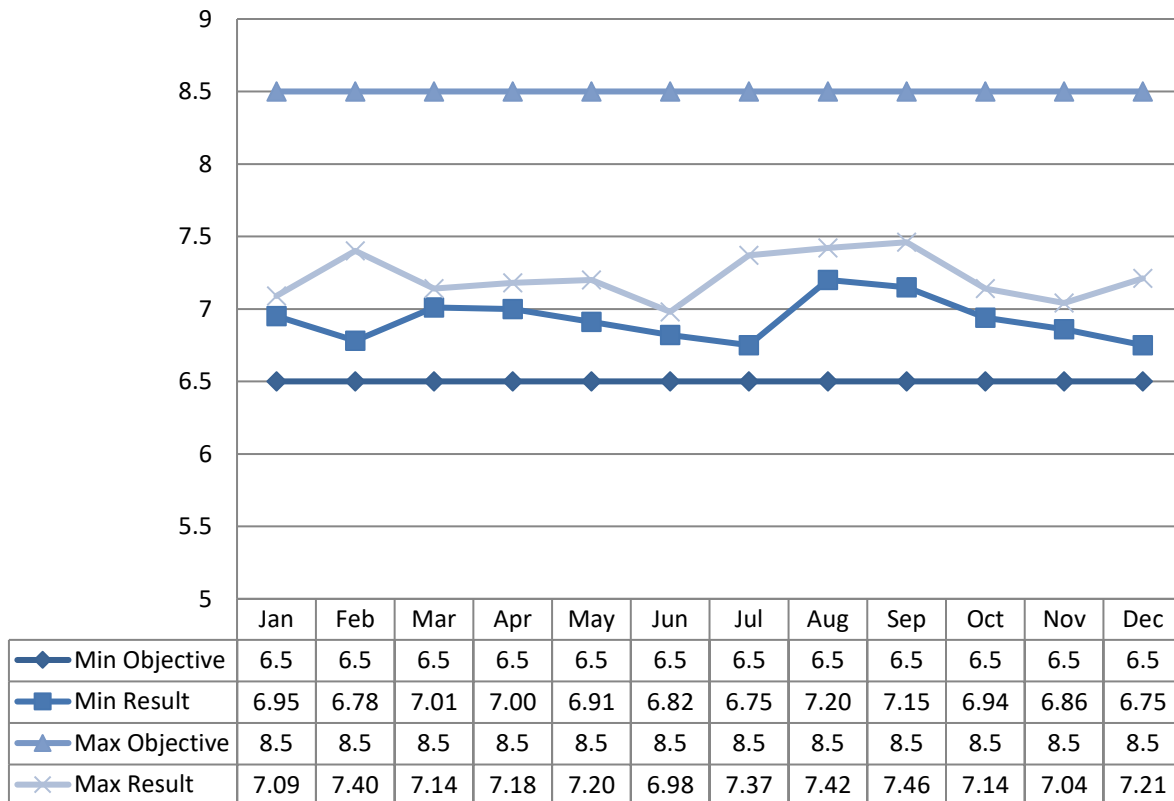
**pH**

ECA #3028-AEUKDQ has a pH compliance limit within the range of 6.0 to 9.5, inclusive, at all times. The pH of the final effluent ranged from 6.75 – 7.46 throughout 2020 which is within the ECA compliance limit at all times.

**Graph 11: 2020 Monthly pH Final Effluent Concentration Limit Comparisons**



**Graph 12: 2020 Monthly pH Final Effluent Concentration Objectives Comparisons**



**Acute Lethality to Rainbow Trout and Daphnia Magna**

Quarterly effluent samples are collected for analysis for acute lethality to rainbow trout and Daphnia magna and a summary of the results are provided in **Appendix II: Acute Lethality Summary**. All of the 2020 samples resulted in a 0% mortality rate for both Rainbow Trout and Daphnia magna. Samples were collected on January 14, April 22, July 21 and November 3, 2020.

(b) The 2011 Ministry of the Environment, Conservation and Parks Compliance Inspection Report identified odour issues as a concern with the Bobcaygeon WWTP. A requirement of the Inspection Report was to develop an action plan implementing odour control options as detailed by Cambium Environmental in their report “Mitigation of Odours Bobcaygeon Water Pollution Control Plant” dated October 18, 2010. The action plan included the preferred option and a timeline for installing the odour mitigation equipment. A pilot study using photoionization was implemented at the Bobcaygeon WWTP in 2013 and the results indicated that this method was not able to sufficiently achieve the desired results.

Operational measures currently in place to reduce odour complaints from nearby residents are:

- Operational staff continue to monitor wind direction
- Potential odour producing maintenance activities continue to be minimized during unfavorable wind direction (if at all possible)
- Potential odour causing activities are scheduled to reduce the impact on local residents as much as possible.

**Table 2: Bobcaygeon WWTP Operational Challenges**

<b>Month</b>	<b>Challenges</b>	<b>Corrective Actions</b>
<b>January</b>	Clarifier Gear Drive Motor Failure	Install spare motor, purchase new spare.
	Communications Failure	Use Bluetooth communication equipment when telephone line down
	SPS 1 – Pump Starter Failure	Replace and upgrade wiring
	Scum Box Heat Trace Failure	Replace wiring
<b>March</b>	Sludge Pump Failure	Replaced with spare.
<b>June</b>	Blower 1 VFD Failure	Replace VFD
<b>July</b>	Scraper Arm Failure	Replace motor.
<b>September</b>	UV Faults	Clean UV 2 Channel
<b>November</b>	Digester Outlet Valve Degrading – Difficulty Closing	Replace valve
<b>December</b>	Cold/Freezing – Ongoing Environmental Challenge	Winter specific maintenance, Time/Health and Safety Considerations

(c) OCWA uses a Work Maintenance System (WMS) that can generate work orders as well as give summaries of completed and scheduled work. During the year, the operating authority at the facility generates scheduled work orders on a weekly, monthly and annual basis. The service work is recorded in the work order history. This ensures routine and preventive maintenance is carried out and assets are maintained to manufacturer's and/or industry standards. Emergency and capital repair maintenance is completed and added to the system.

Refer to **Appendix III: Maintenance Summary** for details of equipment upgrades, repairs and service performed in 2020.

(d) Effluent quality assurance is maintained in several ways. Laboratory samples are sent to an accredited laboratory (SGS Canada Inc. - Lakefield) for analysis of all effluent parameters. Sampling calendars issued to the operator which denote frequency of sampling. Calendars are used as a tracking mechanism throughout the month to ensure all required samples are collected. These calendars are submitted to the Process Compliance Technician at the end of each month for review. Raw and effluent samples are collected as per the Amended Environmental Compliance Approval and the results are reviewed on a regular basis to ensure compliance with the site's objectives and limits.

Work orders illustrating all scheduled and preventative maintenance to be completed are issued to the operator and/or mechanic. OCWA conducts internal audits of the facility and develops Action Plans to ensure deficiencies are identified.

Continuous phosphorus removal is achieved with the dosing of aluminum sulfate.

**Table 3: 2020 Summary of Aluminum Sulfate Usage and Dosage**

Month	Aluminum Sulfate (kg)	Aluminum Sulfate Dosage (mg/L)
January	4488.10	34.11
February	3224.51	36.05
March	5380.80	36.97
April	5081.70	36.47
May	3623.50	34.81
June	3478.60	37.00
July	4321.20	40.09
August	4397.90	41.31
September	4281.00	44.58
October	5521.10	56.63
November	4915.20	51.76
December	4302.90	38.95

(e) Calibrations on effluent monitoring equipment were performed by Franklin Empire on August 25, 2020 for equipment located at the Bobcaygeon Wastewater Treatment Plant. Please see **Appendix IV: Calibration Report**.

Records of maintenance carried out on effluent monitoring equipment can be found in **Appendix III: Maintenance Summary**.

(f) OCWA uses a number of best efforts to achieve the Effluent Objectives. Effluent quality assurance and control measures include in-house sampling and testing for operational parameters such as suspended solids, pH, phosphorus, dissolved oxygen, etc. In-house testing provides real time results which are then used to enhance process and operational performance. OCWA also collects raw sewage and effluent samples as per the ECA and reviews these results on a regular basis to ensure compliance with the ECA objectives and limits.

OCWA uses a computerized maintenance management system which generates work orders to ensure maintenance of equipment is proactively performed. In addition, OCWA provides regular status reports to the Owner which includes operational data, equipment inventory, financial statements, maintenance activities and capital improvement recommendations.

OCWA has developed comprehensive manuals detailing operations, maintenance, instrumentation and emergency procedures. To ensure facilities are operated in compliance with applicable legal requirements, facility staff have access to a network of operational compliance and support experts at the cluster, region and corporate level.

Continuous efforts were made to meet the Effluent Objectives in 2020 including:

- Sampling effluent as per the ECA.
- Visual Inspection of the effluent while performing rounds.
- Influent monitoring.
- Ensuring that chemicals are being dosed.
- Calibration of lab equipment.

- Annual calibration of the flow meters.
- Performing preventative maintenance activities in accordance with work order schedules.
- Performing in-house lab tests on days that data is collected.
- Monitoring treatment processes by performing regular laboratory analysis and review of lab results.
- Sludge monitoring of primary clarifiers & adjustments to pumping volume based on tank levels to reduce solids carryover to the secondary clarifiers.
- Visual review of microbiological activity of activated sludge to ensure appropriate F/M ratio.

### **Carbonaceous Biochemical Oxygen Demand (CBOD5)**

ECA #3028-AEUKDQ sets the CBOD5 monthly average concentration objective at 15.0 mg/L.

**Table 4: 2020 Monthly CBOD5 Final Effluent Concentration Objective Comparisons**

<b>Monthly Average</b>	<b>Average Concentration (mg/L)</b>	<b>Concentration Objective Target (mg/L)</b>	<b>Objective Achieved</b>
<b>January</b>	3.0	15.0	Yes
<b>February</b>	6.5	15.0	Yes
<b>March</b>	3.3	15.0	Yes
<b>April</b>	2.2	15.0	Yes
<b>May</b>	2.3	15.0	Yes
<b>June</b>	2.0	15.0	Yes
<b>July</b>	2.4	15.0	Yes
<b>August</b>	3.8	15.0	Yes
<b>September</b>	2.0	15.0	Yes
<b>October</b>	5.0	15.0	Yes
<b>November</b>	4.3	15.0	Yes
<b>December</b>	27.9	15.0	No

### **Total Suspended Solids (TSS)**

ECA #3028-AEUKDQ sets the TSS monthly average concentration objective at 15.0 mg/L.

**Table 5: 2020 Monthly TSS Final Effluent Concentration Objective Comparisons**

<b>Month</b>	<b>Average Concentration (mg/L)</b>	<b>Concentration Objective Target (mg/L)</b>	<b>Objective Achieved</b>
<b>January</b>	6.25	15.0	Yes
<b>February</b>	7.00	15.0	Yes
<b>March</b>	6.00	15.0	Yes
<b>April</b>	3.80	15.0	Yes
<b>May</b>	3.75	15.0	Yes
<b>June</b>	4.25	15.0	Yes

Month	Average Concentration (mg/L)	Concentration Objective Target (mg/L)	Objective Achieved
July	3.40	15.0	Yes
August	3.25	15.0	Yes
September	3.60	15.0	Yes
October	8.00	15.0	Yes
November	6.00	15.0	Yes
December	8.00	15.0	Yes

### **Total Phosphorus (TP)**

ECA #3028-AEUKDQ sets the TP monthly average concentration objective at 0.5 mg/L.

**Table 6: 2020 Monthly TP Final Effluent Concentration Objective Comparisons**

Month	Average Concentration (mg/L)	Concentration Objective Target (mg/L)	Objective Achieved
January	0.04	0.5	Yes
February	0.06	0.5	Yes
March	0.05	0.5	Yes
April	0.04	0.5	Yes
May	0.06	0.5	Yes
June	0.04	0.5	Yes
July	0.04	0.5	Yes
August	0.04	0.5	Yes
September	0.04	0.5	Yes
October	0.03	0.5	Yes
November	0.04	0.5	Yes
December	0.04	0.5	Yes

### **E.coli**

ECA #3028-AEUKDQ sets the monthly E. coli geometric mean objective at 100 cfu/100mL.

**Table 7: 2020 Monthly E. Coli Final Effluent Concentration Objective Comparisons**

Month	Geometric Mean (cfu/100mL)	Concentration Objective Target (cfu/100mL)	Objective Achieved
January	3.72	100	Yes
February	2.00	100	Yes
March	2.00	100	Yes
April	2.00	100	Yes
May	2.00	100	Yes
June	2.38	100	Yes
July	2.30	100	Yes



Month	Geometric Mean (cfu/100mL)	Concentration Objective Target (cfu/100mL)	Objective Achieved
<b>August</b>	2.38	100	Yes
<b>September</b>	2.30	100	Yes
<b>October</b>	8.49	100	Yes
<b>November</b>	2.00	100	Yes
<b>December</b>	2.29	100	Yes

### pH

The pH of the effluent ranged from 6.75 – 7.46 throughout 2020 which is within the ECA design objectives of 6.50 to 8.50, inclusive, at all times.

**Table 8: Monthly pH Final Effluent Concentration Objective Comparisons**

Month	Minimum	Maximum
January	6.95	7.09
February	6.78	7.40
March	7.01	7.14
April	7.00	7.18
May	6.91	7.20
June	6.82	6.98
July	6.75	7.37
August	7.20	7.42
September	7.15	7.46
October	6.94	7.14
November	6.86	7.04
December	6.71	7.21

### Unionized Ammonia

Unionized ammonia has an objective of 0.1mg/L (100 ug/L). Using total ammonia nitrogen, along with field pH and temperature, the following are the results for the monthly calculated unionized ammonia averages. The final unionized ammonia average was less than the objective each month.

**Table 9: 2020 Monthly Unionized Ammonia Final Effluent Concentration Objective Comparisons**

Month	Average Concentration (ug/L)	Concentration Objective Target (ug/L)	Objective Achieved
<b>January</b>	0.511	100	Yes
<b>February</b>	5.26	100	Yes
<b>March</b>	4.01	100	Yes
<b>April</b>	0.697	100	Yes
<b>May</b>	0.523	100	Yes
<b>June</b>	2.02	100	Yes

Month	Average Concentration (ug/L)	Concentration Objective Target (ug/L)	Objective Achieved
July	12.78	100	Yes
August	29.26	100	Yes
September	8.42	100	Yes
October	12.80	100	Yes
November	4.01	100	Yes
December	3.23	100	Yes

### Temperature

The final effluent temperature ranged from 6.8°C to 23.0°C.

### **Additional Parameters**

The parameters listed below are collected as per ECA or regulatory requirements or for process optimization.

### **Influent Samples**

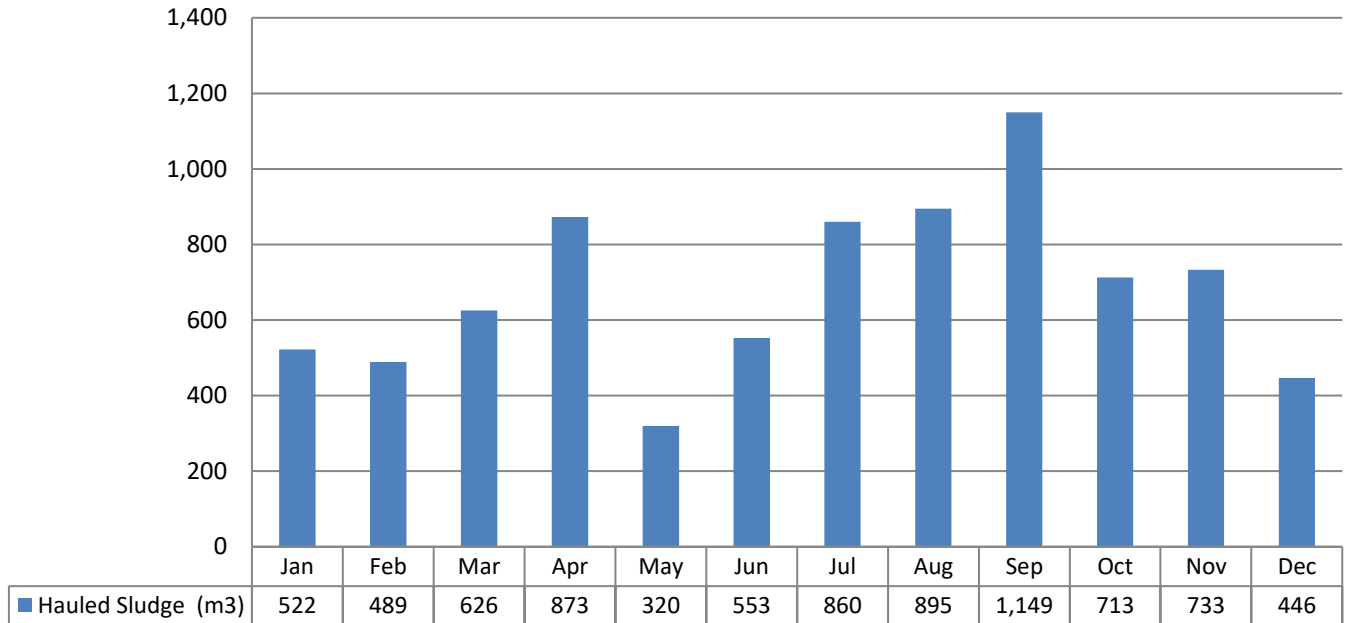
Influent sampling is completed in order to make the necessary process adjustments to stay within the Final Effluent Objectives and limits set in the ECA.

**Table 10: 2020 Monthly Influent Sample Result Concentration Averages**

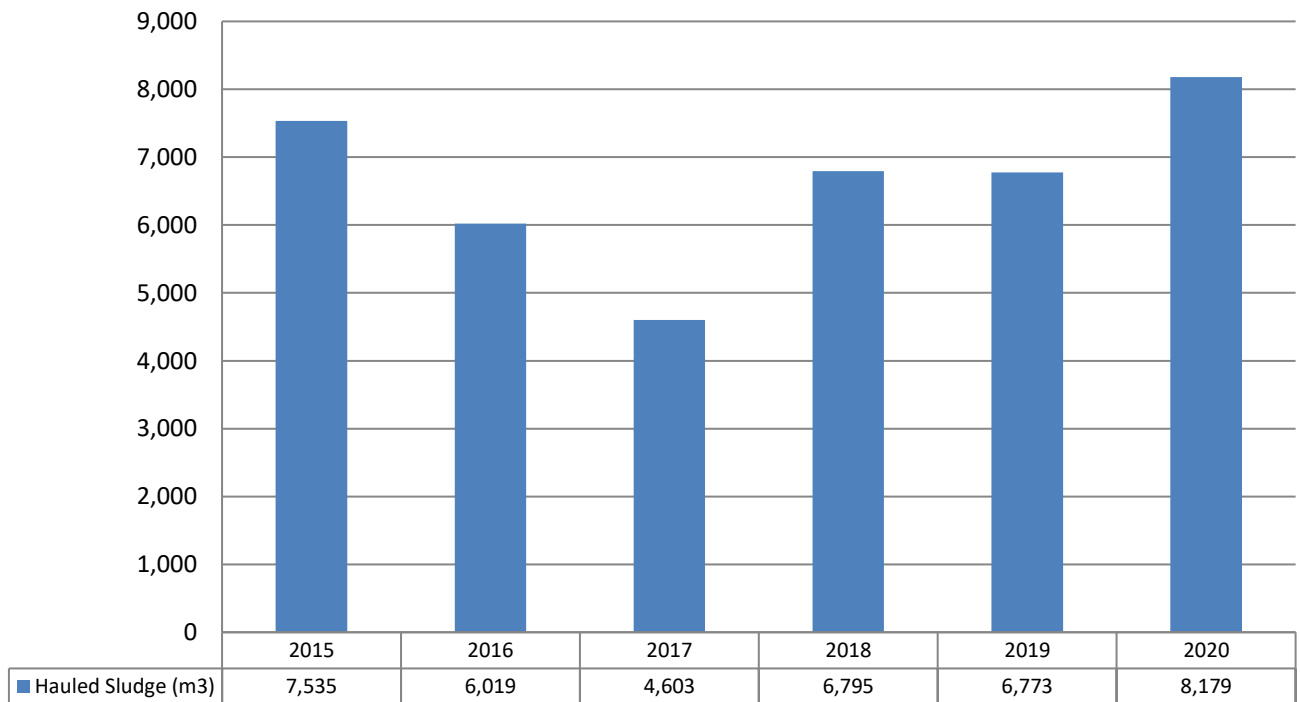
Month	Carbonaceous Biochemical Oxygen Demand - CBOD5 (mg/L)	Biochemical Oxygen Demand - BOD5 (mg/L)	Total Suspended Solids – TSS (mg/L)	Total Kjeldahl Nitrogen – TKN (mg/L)	Total Phosphorus – TP (mg/L)
January	218.00	251.00	84.00	58.60	3.88
February	96.00	90.00	281.00	16.40	1.54
March	364.00	332.00	320.00	27.80	2.70
April	78.00	93.00	69.00	16.10	1.43
May	86.00	88.00	64.00	12.10	1.24
June	114.00	108.00	45.00	17.50	0.46
July	91.00	109.00	47.00	7.80	0.03
August	270.00	290.00	271.00	32.00	3.17
September	229.00	303.00	184.00	36.50	3.03
October	192.00	216.00	225.00	29.70	2.70
November	117.00	114.00	72.00	33.50	1.86
December	59.00	140.00	49.00	21.40	1.06

(g). The total volume of sludge generated in 2020 was 8,178.990 m<sup>3</sup> which was a 20.7% increase over the amount of sludge generated in 2019. Shepherd Environmental Services has been contracted to haul, land apply and store the Biosolids on their approved sites and certified holding lagoon during the winter.

**Graph 13: 2020 Monthly Sludge Volumes**



**Graph 14: Historical Sludge Volume Comparisons**



The anticipated volume of biosolids for the next reporting period is expected to be appreciably similar to this reporting period and no change is expected from the current sludge handling methods and disposal areas currently utilized.

Refer to **Appendix V: Biosolids Summary** for biosolids sampling results.

(h) Summary of complaints received by City of Kawartha Lakes and the Ontario Clean Water Agency concerning the Bobcaygeon WWTP during 2020:

Date	Issue	Actions Taken
March 4, 2020	Noise at SPS 8	Operator tested pumps, observed no abnormal or loud noise
April 16, 2020	Odour	Smell associated with sludge hauling from digester
July 14, 2020	Odour	Contact caller and discuss summer odour difficulties with blower
August 4, 2020	Odour	Contact caller and discuss timing of noticed odour, not tied to specific maintenance
August 13, 2020	Odour	Operator investigate if any source of odour at WWTP, SPS 7,8,9 - none observed
September 1, 2020	Odour	Operator investigate if any source of odour at WWTP, SPS 7,8,9 - none observed
September 1, 2020	Light-Perimeter lighting too bright and shining into residents' cottage	Light position adjusted
September 17, 2020	Visual - Condition of SPS panel	Observed condition of SPS panel, panel painted.

Community complaints received during 2020 can be found in **Appendix VII: Community Complaints**.

(i) A summary of a By-pass, Spill or Abnormal Discharge Events

### **Bypasses**

At approximately 1806 on December 4, 2020, the town of Bobcaygeon experienced utility hydro power interruptions, causing multiple alarms across WWTP and SPS. Bobcaygeon WWTP backup generator power engaged and aeration blower MCC and VFD faulted during the power transfer.

Blowers were discovered off by operator coming in to shift on December 7, 2020. Operator immediately reset the fault VFD/MCC at 0707, restarting the blowers. Upon further investigation the "Aeration Blower 1, 2, 3" alarm was still active and had originally come through at 1808 on December 4th. Approximately 6,164m<sup>3</sup> flowed through the process during this time period. Records show that the aeration blower alarm went to Trent Security but the on call operator was not paged.

All other wastewater processes were operational including preliminary treatment and UV disinfection, which had intensity readings of 4.1 mW/cm<sup>2</sup> on Train 1 and 5.4 mW/cm<sup>2</sup> on Train 2 at the time of discovery.

The event was reported as a bypass and SAC (Incident # 1-85JK5) and MOH were contacted. No further actions were requested.

Composite (CBOD, TSS, Phosphorus, TAN) and grab samples (bacti) were collected as per the requirements listed in the Bobcaygeon ECA for a bypass event. The effluent outfall area was inspected with nothing unusual noted and in house labs were completed.

Bobcaygeon WWTP			
Date Started:	December 4, 2020	Time Started:	18:06
Samples Collected* (yes/no):	Yes	Date Collected:	December 7 and 8, 2020
Date Ended:	December 7, 2020	Time Ended:	0707
Total time of event (hrs):	61 hours, 1 minute		
Peak Flow during event (m <sup>3</sup> /Day):	8,818m <sup>3</sup> /d		
Reference or Incident #	1-85JK5		
Waterworks #	110002498		
Total Secondary Bypass Volume During Event (m <sup>3</sup> ):	6,164.35 m <sup>3</sup> /d		

## Spills

On April 15, 2020 at 10:00 the Bobcaygeon WPCP operator drove past the manhole located on Canal St near Highway 36 and noticed a small amount of water intermittently seeping out of the manhole. Shepherds Environmental was contacted to pump out the manhole and once the manhole was pumped out the operator was able to investigate the cause of water flow. The operator determined there was an issue with the air relief valve. The air relief valve was isolated and water stopped flowing from the manhole. The air relief valve was decommissioned and replacement is not required because there is another air relief valve a short distance downstream on the forcemain.

It is estimated that less than 1 m<sup>3</sup> of water spilled from the manhole. A sample was collected and results can be found in **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events.**

SAC was contacted at 11:06 (SAC #4872-BNPKQX) to report the spill and later provided with an update once the cause of the spill was identified and water was no longer seeping from the manhole.

A full written report of the occurrence to the Water Supervisor describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation was submitted on April 28, 2020 as per ECA #3028-AEUKDQ Condition 11. 2 and can be found in **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events**.

### **Overflows**

There were not any overflows at the Bobcaygeon WWTP or pumping stations in 2020.

### **Abnormal Discharge Events**

There were not any abnormal discharge events at the Bobcaygeon WWTP in 2020.

Refer to **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events** for copies of the quarterly Bypass and Overflow reports, and Notice of Exceedance submitted to the Ministry of the Environment, Conservation and Parks.

(j) There were not any Notices of Modifications to Sewage Works initiated, worked on or completed in 2020.

(k) A summary of all modifications completed as a result of Schedule B, Section 3 are included in **Appendix III: Maintenance Summary** ; and

(l) The Water Supervisor has not requested any additional information be included in this report.